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CHECKLIST

Checklist of the clown beetles (Coleoptera, Histeridae) from the Republic of Moldova

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Abstract

The fauna of Histeridae(Coleoptera) from the Republic of Moldova is summarized. During the study period, more than 600 individuals were identified, totaling in 68 species belonging to 23 genera, 8 tribes and 6 subfamilies. The Histeridae from the Republic of Moldova currently contain the following subfamilies, with genera and species count: Abraeinae W. S. Macleay, 1819 (3 species, 3 genera), Dendrophilinae Reitter, 1909 (5 species, 4 genera), Haeteriinae Marseul, 1857 (1 species, 1 genus), Histerinae Gyllenhal, 1808 (30 species, 8 genera), Onthophilinae W. S. Macleay, 1819 (1 species, 1 genus), Saprininae C. É. Blanchard, 1845 (28 species, 6 genera). *Pachylister inaequalis* (Olivier, 1789), *Saprinus maculatus* (P. Rossi, 1792) and *Margarinotus marginatus* (Erichson, 1834) are reported as new taxa to the fauna of the Republic of Moldova. The checklist of the Histeridae of Republic of Moldova is given.

Keywords

Coleoptera, Histeridae, Moldova, faunal survey, species list.

Introduction

The Histeridae (common name: the clown beetles or histerid beetles) is a distinctive group of mostly small, black, mainly predacious beetles. Totally, 391 genera, 76 subgenera, 4252 species and 34 subspecies are found worldwide (Mazur 2011). The beetles range in size (0.5–20 mm), shape and color: most are oval or round in dorsal

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view; some are cylindrical or dorso-ventrally flattened. Their cuticle is predominantly black in color, and can be, however, also metallic blue or green; several taxa are red-brown or chestnut-brown. The elytra are truncate, often striate or punctate, occasionally with tubercles, exposing the last two abdominal terga. All species have geniculate antennae with a compact, usually three-segmented club. Histerid beetles are found throughout the world in various habitats. They occur in dung, on carrion, under dead vegetation, in sandy areas, under tree bark, inside mammal burrows, ant/termite colonies etc. and, as far as it is known, feed on soft-bodied insect eggs and larvae, Diptera in particular (Kryzhanovskij and Reichhardt 1976). Some Histeridae species feed on other species of Histeridae, so they are considered cannibalistic beetles (Arnett and Thomas 2000). Because the Histeridae are predacious they can be utilized as pest-control agents, but must be stored in isolation (Kryzhanovskij and Lobanov 1997–2010). The clown beetles have proven to be useful in both the control of pest flies in poultry houses and pastures, and against pest beetles of stored food products (Kryzhanovskij 1965).

The history of histerid beetles research in the Republic of Moldova is over 100 years old. The first data on the histerids of Bessarabia (present day R. Moldova) originate from the beginning of the 20th century (Miller and Zobovski 1917; 17 species). Knechtel and Panin (1944) reported 24 species of Histeridae and Medvedev and Shapiro (1957) included 23 species, respectively, as occuring in the territory of Moldova. Other authors, too, mentioned Histeridae in their works: Vereșciaghin and Plugaru (1962); Kryzhanovskij (1965), Kryzhanovskij and Reichhardt (1976); Ostaficiuk (1990); Neculiseanu et al. (2003); Bacal and Calestru (2006); Pelin et al. (2013); Bacal et al. (2013); Nistreanu et al. (2014); Lackner et al. (2015); Bacal and Cocârță (2015); Derjanschi et al. (2016).

The fauna of Histeridae of the Republic of Moldova currently stands at 68 species, belonging to 23 genera, 16 subgenera, 8 tribes and 6 subfamilies. The most abundant subfamilies are the Histerinae and Saprininae, which include 30 and 28 species, respectively. The genus *Pachylister* with the species *Saprinus maculatus* (Fig. 1A), *Pachylister inaequalis* (Fig. 1B) and *Margarinotus marginatus* (Fig. 1C) are reported as new to the fauna of the Republic of Moldova.

Material and Methods

The samples were collected between 2000–2019 from carrion, dung, decomposing fungi, under bark, ant and bird nests, forest litter, tree cavities, flood debris, mammal and reptile burrows, on sandy beaches etc. All hitherto (roughly in the past 100 years) published literature has been analyzed and the collections from the Entomology Museum of the Institute of Zoology of the ASM have been perused. The taxa were identified using the works of Kryzhanovskij (1965), Kryzhanovskij and Reichhardt (1976). The higher systematics of the family follows Kryzhanovskij

and Lobanov (1997–2010), Arnett and Thomas (2000), Mazur (2011); Bouchard et al. (2011), Lackner (2015), Lackner *et al.* (2015).

Results and Discussion

This study represents a part of the long-term investigation conducted between 2000–2019 from different ecosystems of the Republic of Moldova. As a result, 68 species, belonging to 23 genera, 8 tribes and 6 subfamilies of the Histeridae are currently reported from Moldova. The details are as follows: the most species-rich subfamily is the Histerinae Gyllenhal, 1808, that includes 30 species and 8 genera: *Atholus* Thomson, 1859 – 4 species, *Hister* Linnaeus, 1758 – 8 species, *Margarinotus* Marseul, 1853 – 12 species, *Platysoma* Leach, 1817 – 2 species, *Eudiplister* Reitter, 1909, *Pachylister* Lewis, 1904, *Hololepta* Paykull, 1811 and *Eurosomides* Newton, 2015 – a single species each.

The second-most species rich subfamily Saprininae Blanchard, 1845 includes 28 species and 6 genera: *Saprinus* Erichson, 1834 – 14 species, *Hypocaccus* C. Thomson, 1867 – 6 species, *Gnathoncus* Jacquelin du Val, 1857 – 4 species, *Chalcionellus* Reichardt, 1932 – 2 species, *Exaesiopus* Reichardt, 1926 and *Myrmetes* Marseul, 1862 – one species each.

Next it comes the subfamily Dendrophilinae Reitter, 1909 with 5 species and 4 genera, respectively: *Dendrophilus* Leach, 1817 – 2 species, *Carcinops* Marseul, 1855, *Paromalus* Erichson, 1834, and *Platylomalus* Cooman, 1948 – by one species each.

The subfamily Abraeinae MacLeay, 1819 includes 3 species, but subfamilies Haeteriinae Marseul, 1857 and Onthophilinae Reitter, 1819 are represented by a single genus and species each, respectively.

After a careful analysis of the materials the genus *Pachylister* Lewis, 1904 with the species *Pachylister inaequalis*, as well as *Saprinus maculatus* and *Margarinotus marginatus* are herein reported as new to the fauna of the Republic of Moldova and marked by an asterisk (*). Below there is a checklist of the clown beetles from the Republic of Moldova. Systematic and nomenclature are according to Mazur (2011), Lackner (2015), Lackner et al. (2015).

Checklist of the clown beetles (Coleoptera, Histeridae) of the Republic of Moldova

Family Histeridae Gyllenhal, 1808
Subfamily Abraeinae W.S. MacLeay, 1819
Tribe Abraeini W.S. MacLeay, 1819
Abraeus (*Abraeus*) *perpusillus* Marsham, 1802

Tribe Acritini Wenzel, 1944

Acritus (*Acritus*) *nigricornis* Hoffmann, 1803

Tribe Teretriini Bickhardt, 1914
Teretrius (*Teretrius*) *fabricii* Mazur, 1972
= *picipes* (Fabricius, 1792)

Subfamily Dendrophilinae Reitter, 1909
Tribe Dendrophilini Reitter, 1909
Dendrophilus (*Dendrophilus*) *punctatus punctatus* (Herbst, 1791)

Dendrophilus (*Dendrophilus*) *pygmaeus* (Linnaeus, 1758)

Tribe Paromalini Reitter, 1909
Carcinops pumilio (Erichson, 1834)
= *quatuordecimstriatus* (Stephens, 1835)

Paromalus (*Paromalus*) *flavicornis* (Herbst, 1791)

Platylomalus complanatus (Panzer, 1797)

Subfamily Haeteriinae Marseul, 1857
Haeterius ferrugineus (Olivier, 1789)
= *sesquicornis* (Preyssler, 1792)

Subfamily Histerinae Gyllenhal, 1808
Tribe Histerini Gyllenhal, 1808
Atholus bimaculatus (Linnaeus, 1758)
= *morio* (J. Schmidt, 1885)

Atholus corvinus (Germar, 1817)

Atholus duodecimstriatus duodecimstriatus (Schrank, 1781)

Atholus praetermissus (Peyron, 1856)

Eudiplister planulus (Ménétriés, 1849)
= *coquerelli* (Marseul, 1862)
= *laco* (Marseul, 1862)

Hister bissexstriatus Fabricius, 1801

Hister funestus Erichson, 1834

Hister illigeri illigeri Duftschmid, 1805
= *uncinatus* Illiger, 1807

Hister lugubris Truqui, 1852
= *densepunctatus* Roubal, 1937
= *jadrensis* J. Müller, 1899

Hister quadrimaculatus Linnaeus, 1758
= *aethiops* Heer, 1841
= *gagates* Illiger, 1807
= *pelopis* Marseul, 1862

Hister quadrinotatus quadrinotatus L. G. Scriba, 1790
= *innotatus* Lokay, 1906

Hister sepulchralis Erichson, 1834
= *desbrochersi* Sénac, 1869

Hister unicolor unicolor Linnaeus, 1758
= *ater* De Geer, 1774

Margarinotus (*Eucalohister*) *bipustulatus* (Schrank, 1781)
= *fimetarius* (Herbst, 1792)

Margarinotus (*Paralister*) *carbonarius carbonarius* (Hoffmann, 1803)

Margarinotus (*Paralister*) *ignobilis* (Marseul, 1854)

Margarinotus (*Promethister*) *marginatus* (Erichson, 1834)

Margarinotus (*Paralister*) *punctiventer* (Marseul, 1854)
= *stigmosus* (Marseul, 1862)

Margarinotus (*Paralister*) *purpurascens* (Herbst, 1791)
= *pueli* (Chobaut, 1922)

Margarinotus (*Paralister*) *ventralis* (Marseul, 1854)

Margarinotus (*Ptomister*) *brunneus* (Fabricius, 1775)
= *cadaverinus* (Hoffmann, 1803)

Margarinotus (*Ptomister*) *distinctus* (Erichson, 1834)

Margarinotus (*Ptomister*) *striolasuccicola* (Thomson, 1862)

Margarinotus (*Ptomister*) *terricola* (Germar, 1824)

Margarinotus (*Stenister*) *obscurus* (Kugelann, 1792)
= *stercorarius* (Hoffmann, 1803)

Pachylister (*Pachylister*) *inaequalis* (Olivier, 1789)*

Tribe Hololeptini Hope, 1840
Hololepta (*Hololepta*) *plana* (Sulzer, 1776)

Tribe Platysomatini Bickhardt, 1914

Eurosomides minor (P. Rossi, 1792)
= *frontalis* (Paykull, 1798)

Platysoma (*Cylister*) *angustatum* (Hoffmann, 1803)
= *ferrugineum* (Thunberg, 1794)
= *pfefferi* Roubal, 1943

Platysoma (*Platysoma*) *compressum* (Herbst, 1783)
= *depressum* (Fabricius, 1787)

Subfamily Onthophilinae W. S. Macleay, 1819
Onthophilus striatusstriatus (Forster, 1771)

Subfamily Saprininae C. É. Blanchard, 1845
Chalcionellus amoenus (Erichson, 1834)

Chalcionellus decemstriatus decemstriatus (P. Rossi, 1792)
= *conjungens* (Paykull, 1798)

Exaesiopus grossipes (Marseul, 1855)

Gnathoncus buyssoni Auzat, 1917

Gnathoncus communis (Marseul, 1862)
= *schmidti* Reitter, 1894

Gnathoncus nannetensis (Marseul, 1862)

Gnathoncus rotundatus (Kugelann, 1792)

= *nanus* (L. G. Scriba, 1790)

Hypocaccus (*Hypocaccus*) *metallicus* (Herbst, 1791)

Hypocaccus (*Hypocaccus*) *rugiceps* (Duftschmid, 1805)

Hypocaccus (*Hypocaccus*) *rugifrons* (Paykull, 1798)
= *rasilis* (Marseul, 1862)
= *subtilis* (J. Schmidt, 1884)

Hypocaccus (*Hypocaccus*) *speculum speculum* (J. Schmidt, 1884)

Hypocaccus (*Nessus*) *rubripes*

Hypocaccus (*Nessus*) *rufipes* (Kugelann, 1792)
= *longistrius* (Marseul, 1855)

Myrmetes paykulli Kanaar, 1979
= *piceus* (Paykull, 1809)

Saprinus (*Saprinus*) *acuminatus acuminatus* (Fabricius, 1798)

Saprinus (*Saprinus*) *aegialius* Reitter, 1884
= *incognitus* Dahlgren, 1964

Saprinus (*Saprinus*) *aeneus* (Fabricius, 1775)
= *klickai* Lokay, 1919

Saprinus (*Saprinus*) *caerulescens caerulescens* (Hoffmann, 1803)
= *semipunctatus* (Fabricius, 1792)

Saprinus (*Saprinus*) *cribellatus* Marseul, 1862

Saprinus (*Saprinus*) *furvus* Erichson, 1834

Saprinus (*Saprinus*) *georgicus* Marseul, 1862

Saprinus (*Saprinus*) *maculatus* (P. Rossi, 1792)*

Saprinus (*Saprinus*) *planiusculus* Motschulsky, 1849
= *cuspidatus* Ihssen, 1949

Saprinus (*Saprinus*) *polituspolitus* Brahm, 1790

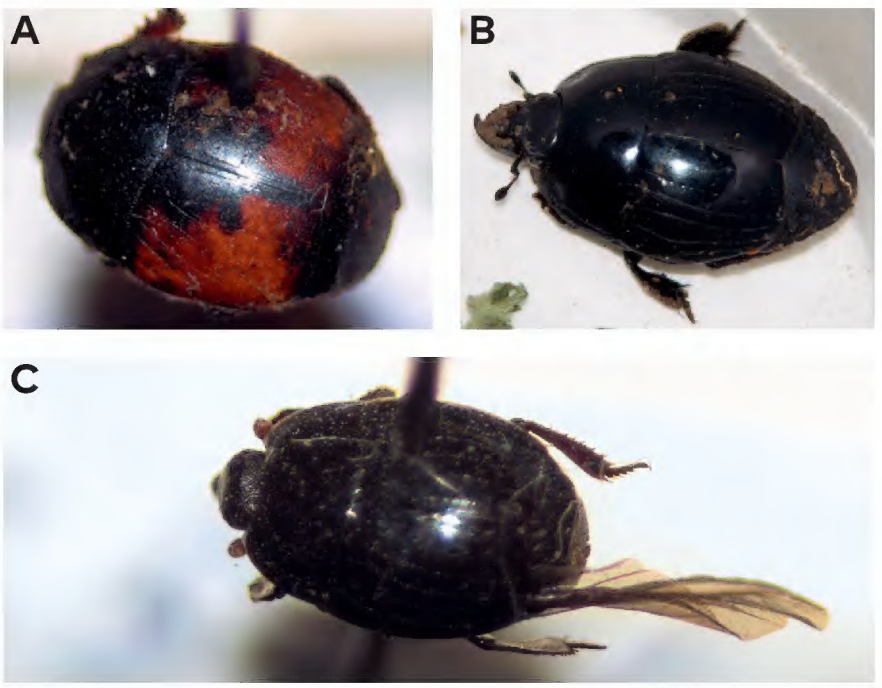

Figure 1. New species for the fauna of the Republic of Moldova: A - *Saprinus maculatus* Rossi; B - *Pachylister inaequalis* Ol.; C -*Margarinotus marginatus* (Erich.)

Saprinus (*Saprinus*) *semistriatus* (L. G. Scriba, 1790)
= *nitidulus* (Fabricius, 1801)
= *asphaltinus* Hochhuth, 1872

Saprinus (*Saprinus*) *subnitescens* Bickhardt, 1909
= *fagniezi* Auzat, 1921

Saprinus (*Saprinus*) *tenuistrius sparsutus* Solsky, 1876
= *brunnensis* A. Fleischer, 1883

Saprinus (*Saprinus*) *virescens* (Paykull, 1798)
= *geminus* (Duftschmid, 1805)

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References

Arnett RH, Thomas MS (2000) American Beetles, Vol. I: Archostemata, Myxophaga, Adephaga, Polyphaga: Staphiliniformia, CRC Press LLC, p. 212–227.

Bacal S, Calestru L (2006) Necotorâedannâe o jukah "Codrii Tigheciulu" [Some data about the coleopterans of "Codrii Tigheciului"]. Buletin Ştiinţific. Revista de Etnografie, Ştiinţele Naturii şi Muzeologie, 4 (17), p. 61–68. [in Russian]

Bacal S, Munteanu N, Toderaş I (2013) Checklist of beetles (Insecta: Coleoptera) of the Republic of Moldova. Brukenthal. Acta Musei. VIII, 3: 415–450.

Bacal S, Cocârţă P (2015) Data on the Coleoptera insects associated with dead wood in the Republic of Moldova Drobeta, XXV, Ser. Şt. Nat., Turnu Severin, p. 79–88.

Bouchard P, Bousquet Y, Davies A, Alonso-Zarazaga M, Lawrence J, Lyal CH, Newton A, Reid CH, Schmitt M, Slipinski SA, Smith BT (2011) Family-group names in Coleoptera (Insecta). Zookeys, 972 pp.

Derjanschi V, Baban E, Calestru L, Stahi N, Ţugulea C (2016) Catalogue of the N. Zubowsky entomological collection, 130–133. [in Romanian]

Knechtel WK, Panin SA (1944) Oekologisch-Zoogeographisches studium an Coleopteren des Rumanischen Faunen-gebietes [Ecological-zoogeographic studies on coleoptera in the Romanian fauna area]. Acad. Roum. Etudes et Recherches 15: 23–26. [in German]

Kryzhanovskij OL (1965) Opredeliteli nasekomîh Evropeiskoi ceasti SSSR [Identification key of the insects of the European USSR].Tom 2: 95-104 [in Russian]

Kryzhanovskij OL, Reichhardt AN (1976) Fauna SSSR, Zhestkokrylye, Vol. 5, No. 4. Zhuki nadsemejstva Histeroidea (Semejstva Sphaeritidae, Histeridae, Synteliidae). [Fauna of the USSR. Coleopterans, 5 (4). Beetles of the superfamily Histeroidea (families Sphaeritidae, Histeridae, Synteliidae)]. Nauka, Leningrad, 434 pp. [in Russian]

Kryzhanovskij OL, Lobanov AL (1997–2010) Spisok vidov carapuzikov (Histeridae) i blizkih semeistv faunî Rossii (Catalog jestkokrîlîh, nadsemeistva HISTEROIDEA faunî Rossii: unpublished manuscript) [List of species of caterpillars (Histeridae) and close families of Russian fauna (Catalog of the superfamily HYSTEROIDEA fauna of Russia)]. [in Russian]

Lackner T (2015) Coleoptera: Sphaeritidae, Histeridae. Folia heyrovskyana Series B, 23: 1–33.

Lackner T, Mazur S, Newton AF (2015) Family Histeridae Gyllenhal, 1808. In: Löbl I, Löbl D (Eds) Catalogue of Palaearctic Coleoptera. Vol. 2. Hydrophiloidea – Staphylinoidea, parts 1–2. Brill Publishers, Leiden, The Netherlands, xxiii + 1–900.

Mazur S (2011): A Concise Catalogue of the Histeridae (Insecta: Coleoptera). Warsaw University of Life Sciences, SGGW Press, Warszawa, 332 pp.

Medvedev SI, Shapiro DS (1957) Issledovaniejestkokrâlâhfaunî MSSR I sopredelinâhterritorii Ucrainî [To the knowledge of the beetles (Coleoptera) of Moldavia and adjacent regions of the Ukraine]. Notes of Kharkov University, 30: 190–230 [in Russian]

Miller E, Zubovski N (1917) Materalien zur entomologischen Fauna Bessarabiens in Travaux Soc. Natur. und Amat. Sc. Natur. Bessarabie [Materials for the entomological fauna of Bessarabia in Travaux Soc. Nature. and Amat. Sc. Nature. Bessarabia] Kishinef, 6: 119–150 [in German]

Neculiseanu Z, Chirtoacă V, Dănilă A, Baban E, Neculiseanu Z (jun.) (2003) Biodiversitate a rezervaţiei peisagistice "Telița" [Biodiversity of the landscape Reserve "Telița"]. Chişinău, 112 pp. [in Romanian]

Nistreanu V, Buşmachiu G, Postolachi V, Larion A, Bacal S (2014) Diversity of terrestrial vertebrates (Mammalia, Reptilia, Amphibia) and invertebrates (Colembola, Coleoptera) in the Sadaclia steppe area, Republic of Moldova. In: Sustainable use and protection of animal world diversity, 73–75.

Ostaficiuk V (1990) Vrednâe nasekomâe seliskohozeaistvennâh kulitur [Insects harmful to agricultural crops]. V: Fauna biocenoticeskih oazisov i ee practiceskoe znacenie [Fauna of biocenotic oases and its practical importance], p. 70–124 [in Russian].

Pelin A, Coadă V, Nedbaliuk B (2013) Contributions to the study of diversity of the beetles (Insecta, Coleoptera) in the lower basin of the Ichel river. In: Actual problem of Protection and sustainable use of the animal world diversity, VIII Inter. Conf.of Zool-ts, p.156–158.

Veresciaghin BV, Plugaru SG (1962) Vlieanie na lesnuiu entomofaunu aviahimiceskoi obrabotki protiv dubovogo pohodnogo selkopreada [The influence of aviochemical processing on forest entomofauna and oak butterfly]. V: Izvestie Moldavskogo filiala AN SSSR 3 [Bulletin of the USSR, Moldova branch 3]: 1-34 [in Russian]